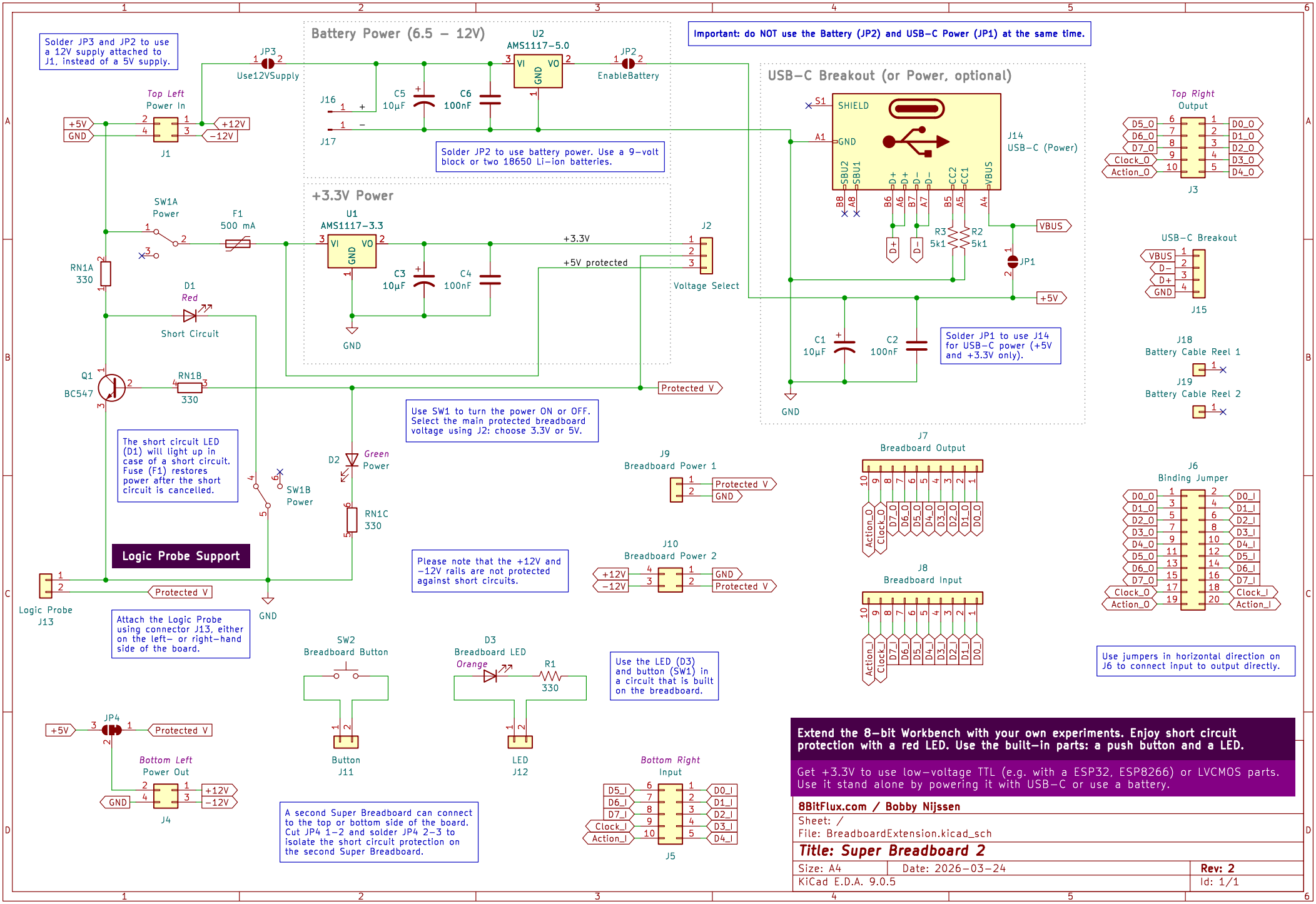
Solder JP3 and JP2 to use a 12V supply attached to J1, instead of a 5V supply.
Battery Power (6.5 – 12V)
U2
AMS1117-5.0
JP3
Use12VSupply
JP2
EnableBattery
J16
J17
C5
10µF
C6
100nF
Solder JP2 to use battery power. Use a 9-volt block or two 18650 Li-ion batteries.
Important: do NOT use the Battery (JP2) and USB-C Power (JP1) at the same time.
USB-C Breakout (or Power, optional)
J14
USB-C (Power)
SHIELD
GND
R3
5k1
R2
5k1
JP1
C1
10µF
C2
100nF
Solder JP1 to use J14 for USB-C power (+5V and +3.3V only).
Top Right
Output
J3
USB-C Breakout
J15
J18
Battery Cable Reel 1
J19
Battery Cable Reel 2
Top Left
Power In
J1
+5V
GND
+12V
-12V
SW1A
Power
F1
500 mA
+3.3V Power
U1
AMS1117-3.3
C3
10µF
C4
100nF
+3.3V
+5V protected
J2
Voltage Select
RN1A
330
D1
Red
Short Circuit
Q1
BC547
RN1B
330
Protected V
Use SW1 to turn the power ON or OFF. Select the main protected breadboard voltage using J2: choose 3.3V or 5V.
The short circuit LED (D1) will light up in case of a short circuit. Fuse (F1) restores power after the short circuit is cancelled.
D2
Green
Power
SW1B
Power
RN1C
330
J9
Breadboard Power 1
J10
Breadboard Power 2
J7
Breadboard Output
J8
Breadboard Input
J6
Binding Jumper
Use jumpers in horizontal direction on J6 to connect input to output directly.
Logic Probe Support
Logic Probe
J13
Attach the Logic Probe using connector J13, either on the left- or right-hand side of the board.
Please note that the +12V and -12V rails are not protected against short circuits.
SW2
Breadboard Button
Button
J11
D3
Breadboard LED
Orange
R1
330
LED
J12
Use the LED (D3) and button (SW1) in a circuit that is built on the breadboard.
JP4
Bottom Left
Power Out
J4
Bottom Right
Input
J5
A second Super Breadboard can connect to the top or bottom side of the board. Cut JP4 1-2 and solder JP4 2-3 to isolate the short circuit protection on the second Super Breadboard.
Extend the 8-bit Workbench with your own experiments. Enjoy short circuit protection with a red LED. Use the built-in parts: a push button and a LED.
Get +3.3V to use low-voltage TTL (e.g. with a ESP32, ESP8266) or LVCMOS parts. Use it stand alone by powering it with USB-C or use a battery.
8BitFlux.com / Bobby Nijssen
Sheet: /
File: BreadboardExtension.kicad_sch
Title: Super Breadboard 2
Size: A4
Date: 2026-03-24
Rev: 2
KiCad E.D.A. 9.0.5
Id: 1/1